

1

2

3

4

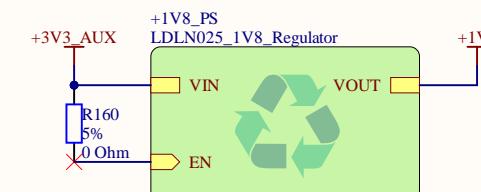
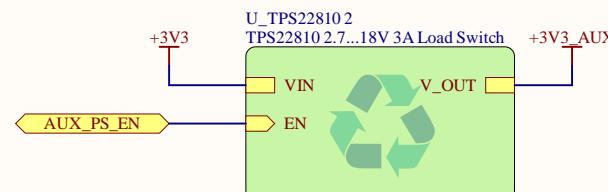
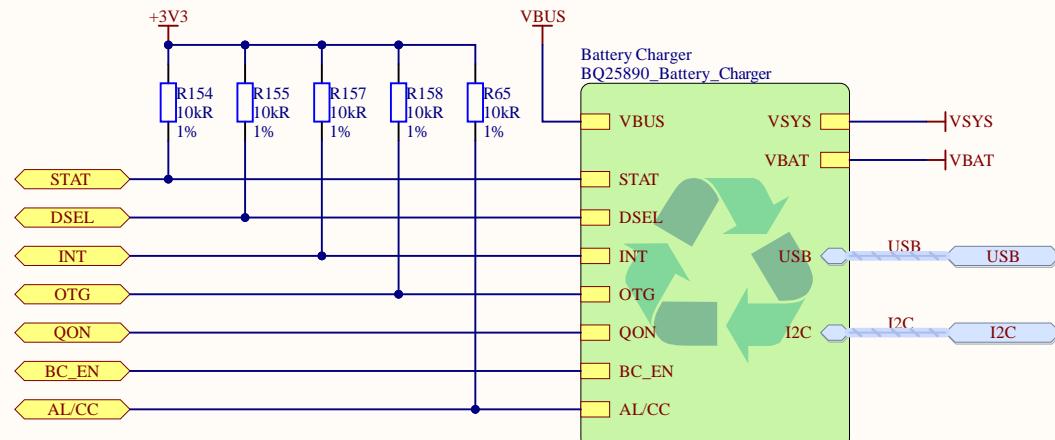
A

B

C

D

| | | | |
|---|----------------|---------------|---|
| Title USB Type-C PD Port Controller V2.0 | | | Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 |
| Size: A4 | Number: 2 | Revision: 0.1 | |
| Date: 03-02-2022 | Time: 14:49:29 | Sheet 2 of 51 | |
| File: USB_Type-C_Port_V2.0.SchDoc | | | |



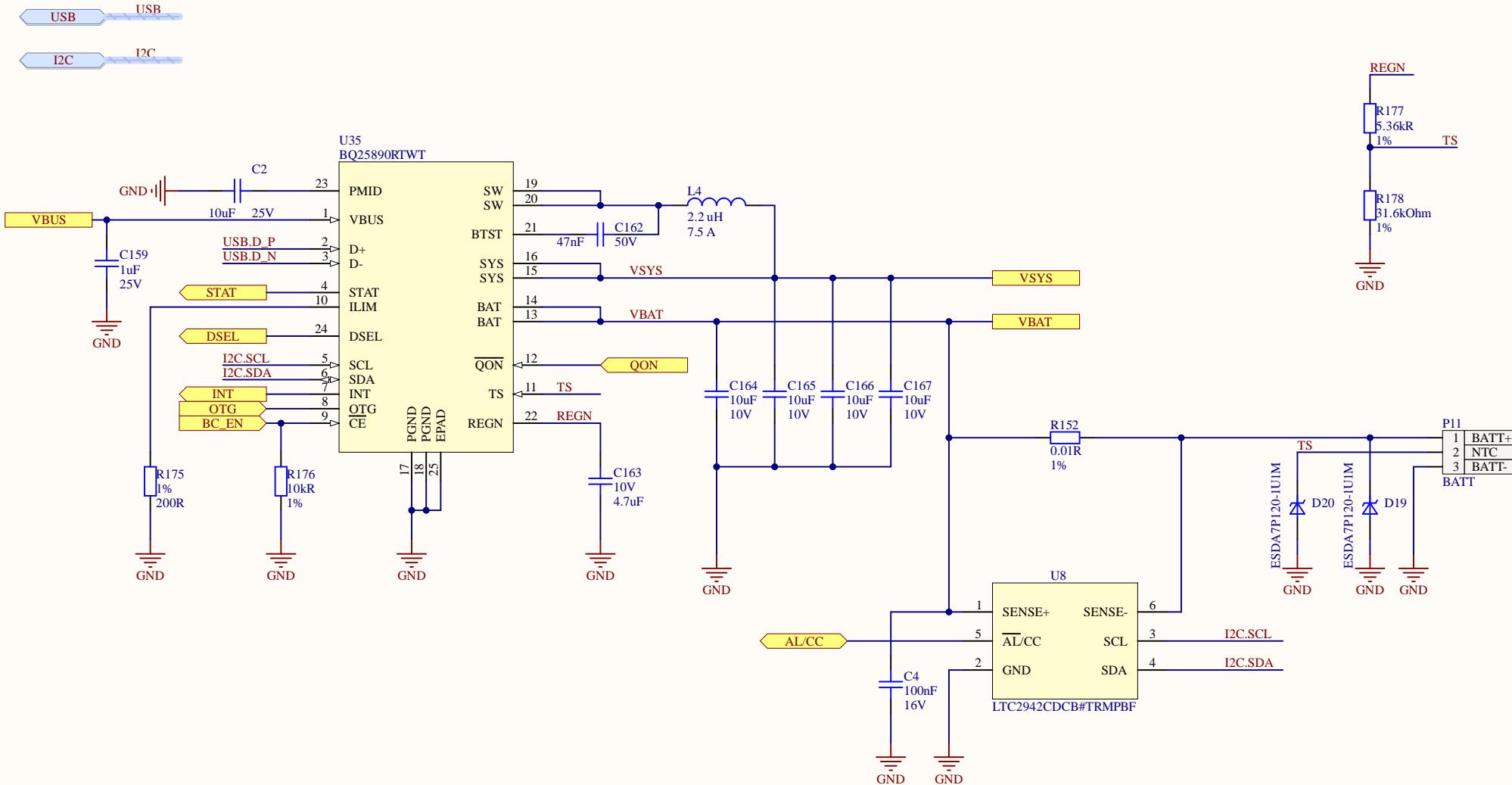
Title **Power Management**

Size: **A4** Number: **3** Revision: **0.1**

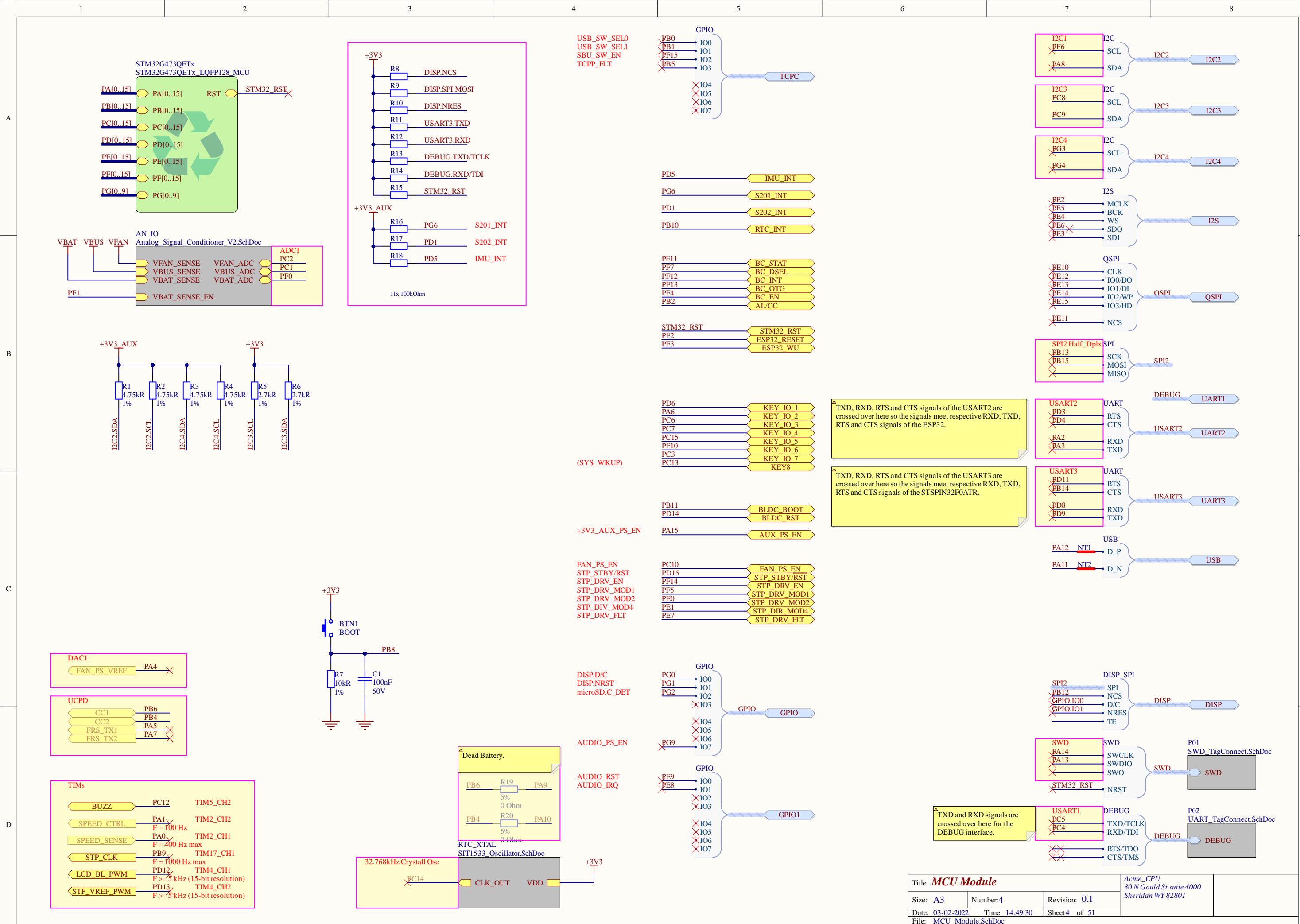
Date: **03-02-2022** Time: **14:49:29** Sheet **3** of **51**

File: **Power Management.SchDoc**

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801



| | | | | |
|--------------------------------------|----------------|---------------|--|--|
| Title BQ25895 Battery Charger | | | <i>Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801</i> | |
| Size: A4 | Number: 3 | Revision: 0.1 | | |
| Date: 03-02-2022 | Time: 14:49:29 | Sheet 3 of 50 | | |
| File: BQ25890_Battery_Charger.SchDoc | | | | |



A

A

B

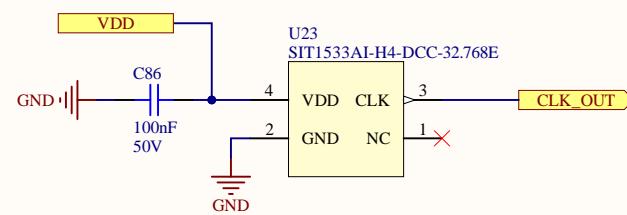
B

C

C

D

D



Title *SIT1533 RTC 32.768 kHz Oscillator*

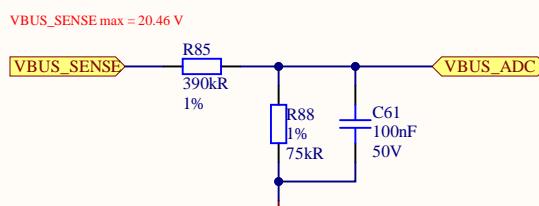
| | | |
|----------|-----------|---------------|
| Size: A4 | Number: 5 | Revision: 0.1 |
|----------|-----------|---------------|

| | |
|---|--|
| Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 | |
|---|--|

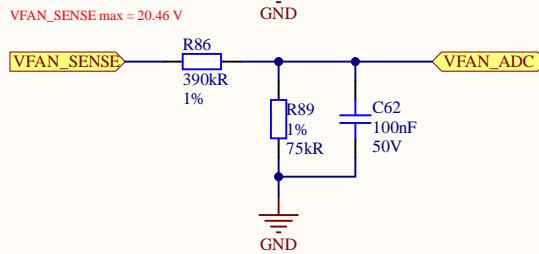
| | | |
|------------------|----------------|---------------|
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 5 of 51 |
|------------------|----------------|---------------|

| |
|---------------------------------|
| File: SIT1533_Oscillator.SchDoc |
|---------------------------------|

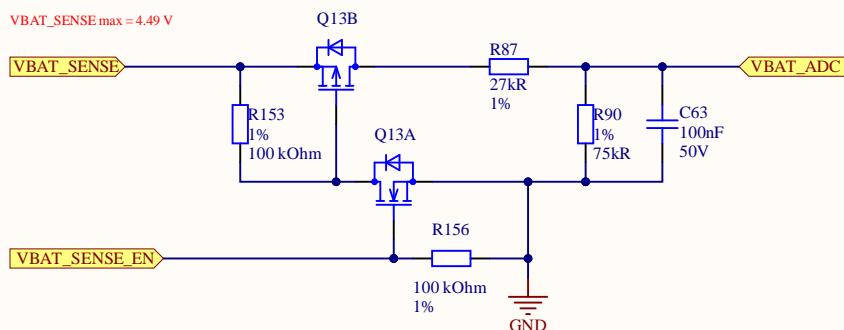
A



B



C



D

Title *Analog Signal Conditioner*

 Size: **A4** Number: **6** Revision: **0.1**

 Date: **03-02-2022** Time: **14:49:30** Sheet **6** of **51**

 File: **Analog_Signal_Conditioner_V2.SchDoc**

 Acme_CPU
 30 N Gould St suite 4000
 Sheridan WY 82801

A

A

B

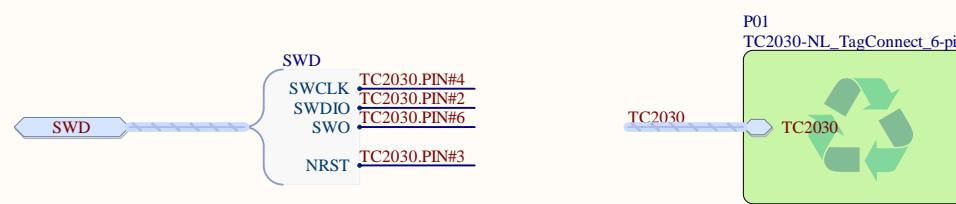
B

C

C

D

D



Title *Tag-Connect SWD Port*

| | | |
|-----------------------------|----------------|---------------|
| Size: A4 | Number: 7 | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 7 of 51 |
| File: SWD_TagConnect.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

A

A

B

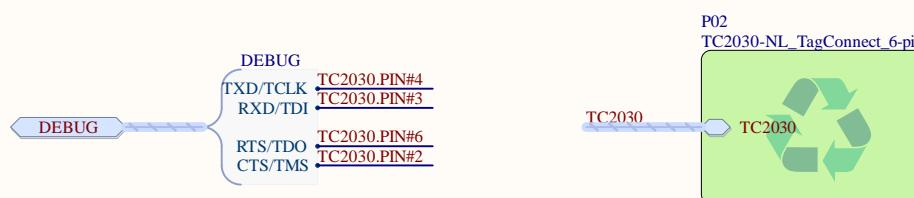
B

C

C

D

D

**Title Tag-Connect DEBUG Port**

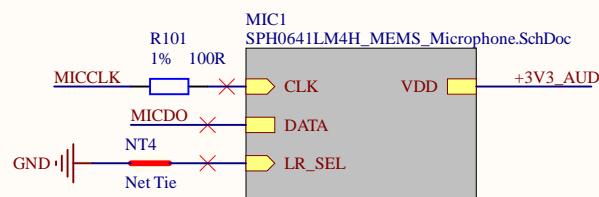
Size: A4 Number:8 Revision: 0.1

Date: 03-02-2022 Time: 14:49:30 Sheet 8 of 51

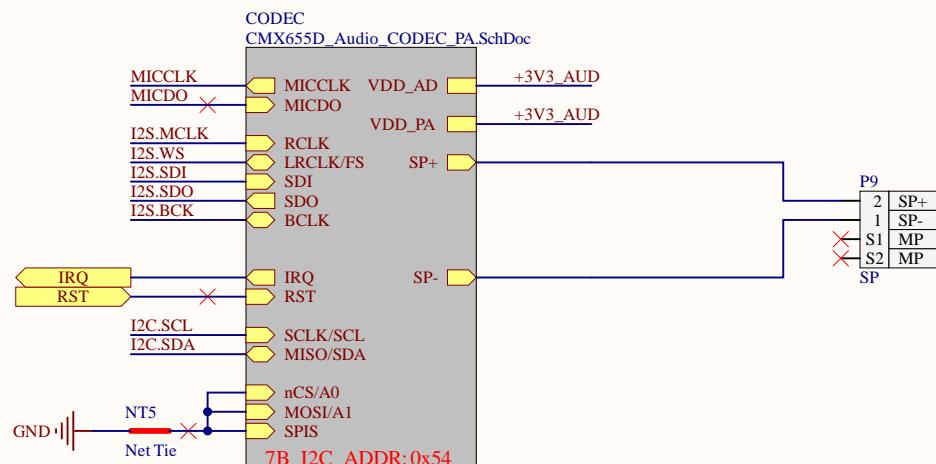
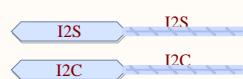
File: UART_TagConnect.SchDoc

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

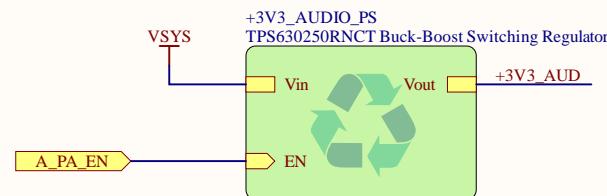
A



B



C



D

Title **Audio Module**Size: **A4**Number: **9**Revision: **0.1**Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801Date: **03-02-2022**Time: **14:49:30**Sheet **9** of **51**File: **Audio_Module.SchDoc**

A

B

C

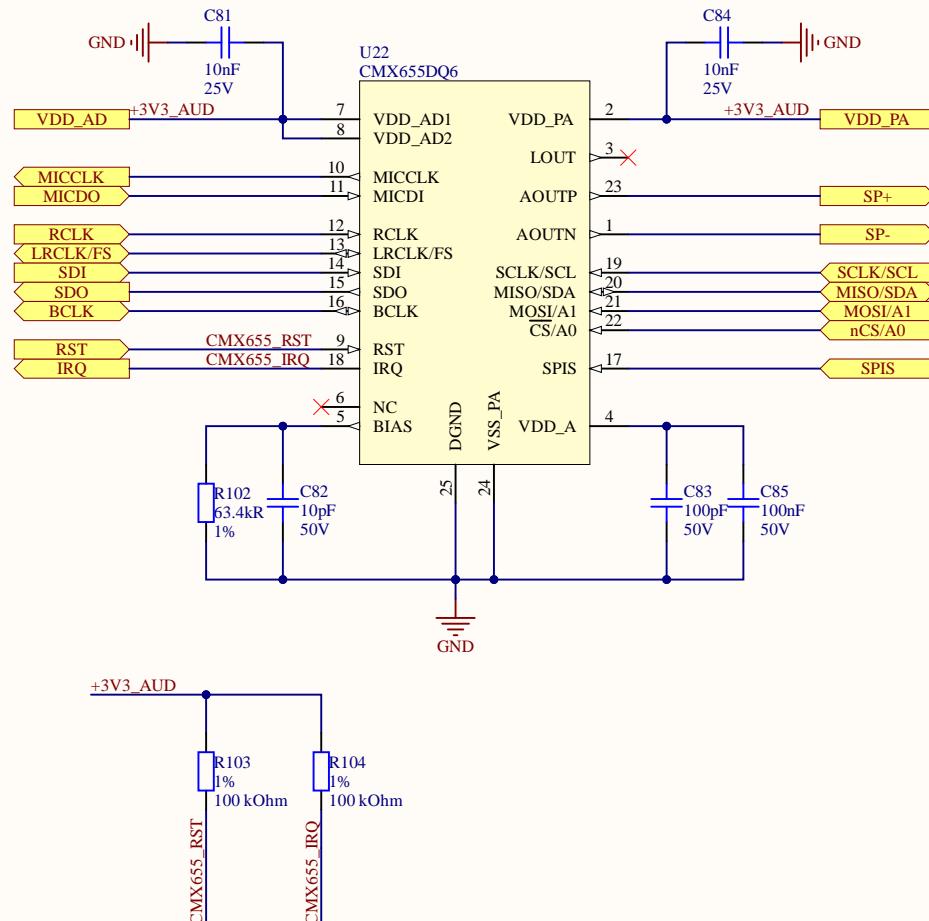
D

A

B

C

D

Title **CMX655D Audio CODEC with PA**Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

Size: A4 Number:10 Revision: 0.1

Date: 03-02-2022 Time: 14:49:30 Sheet 10 of 51

File: CMX655D_Audio_CODEC_PA.SchDoc

A

A

B

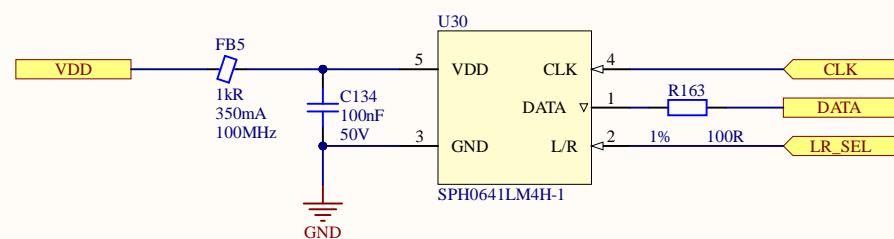
B

C

C

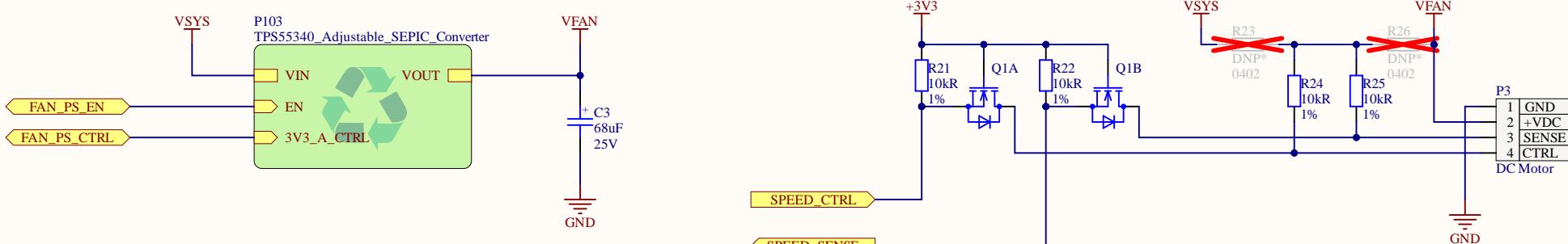
D

D

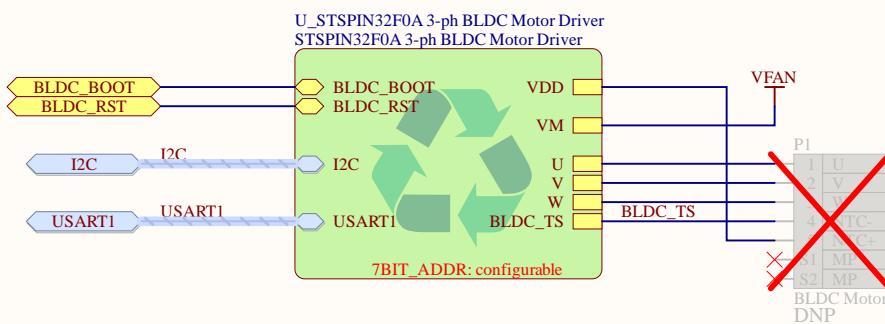


| | | | |
|--|----------------|----------------|--|
| Title SPH0641LM4H-1 PDM MEMS Microphone | | | <i>Acme CPU 30 N Gould St suite 4000 Sheridan WY 82801</i> |
| Size: A4 | Number: 11 | Revision: 0.1 | |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 11 of 51 | |
| File: SPH0641LM4H_MEMS_Microphone.SchDoc | | | |

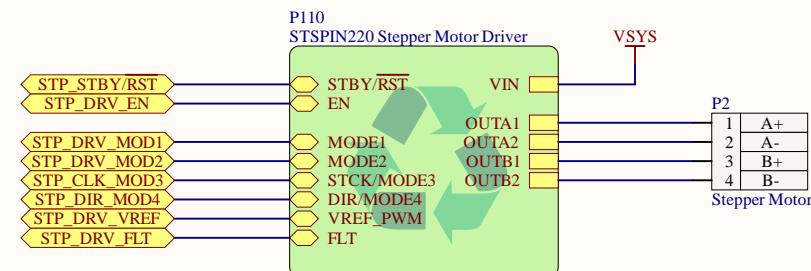
A



B



C

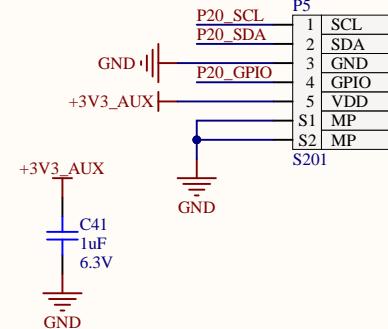
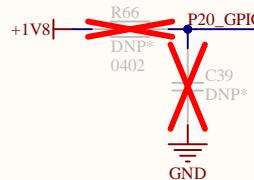
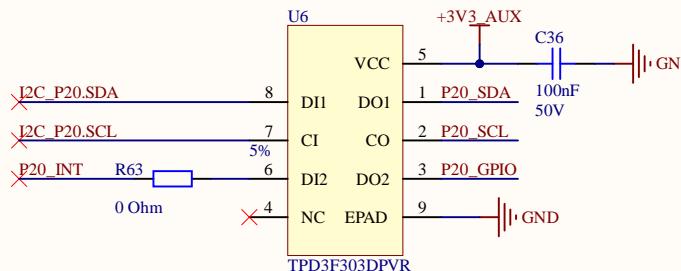
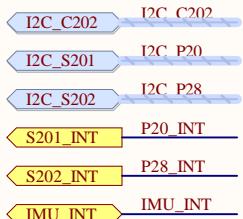


D

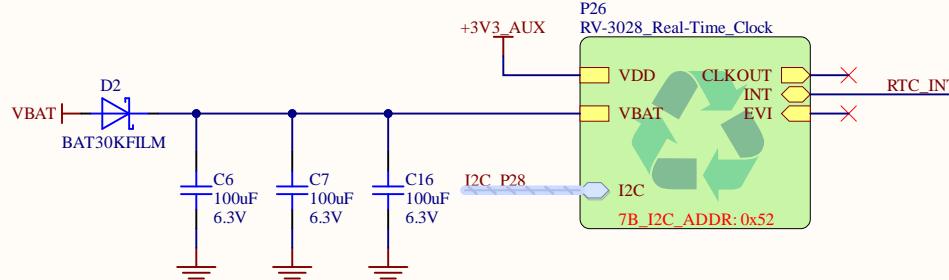
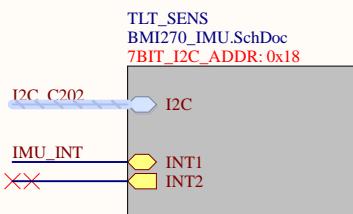
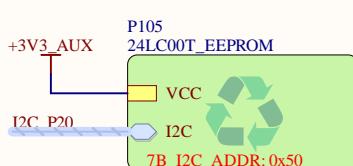
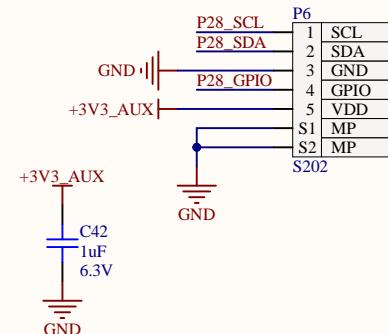
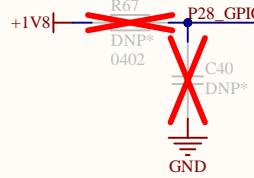
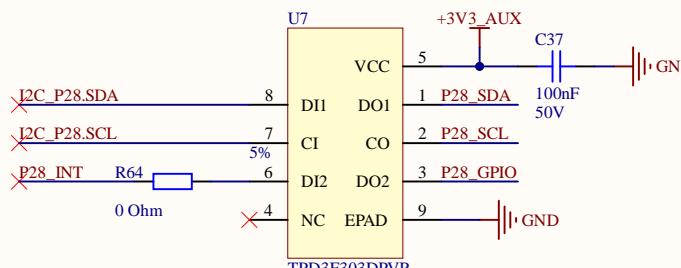
Title **Motor Connection**

| | | |
|-------------------------------|----------------|----------------|
| Size: A4 | Number: 12 | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 12 of 51 |
| File: Motor Connection.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801



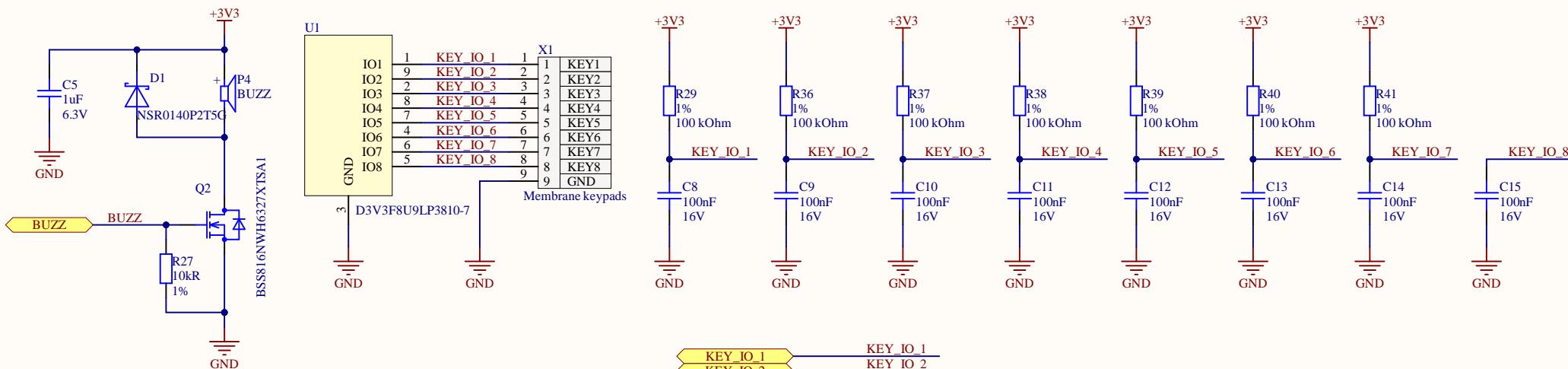
RTC_INT → RTC_INT



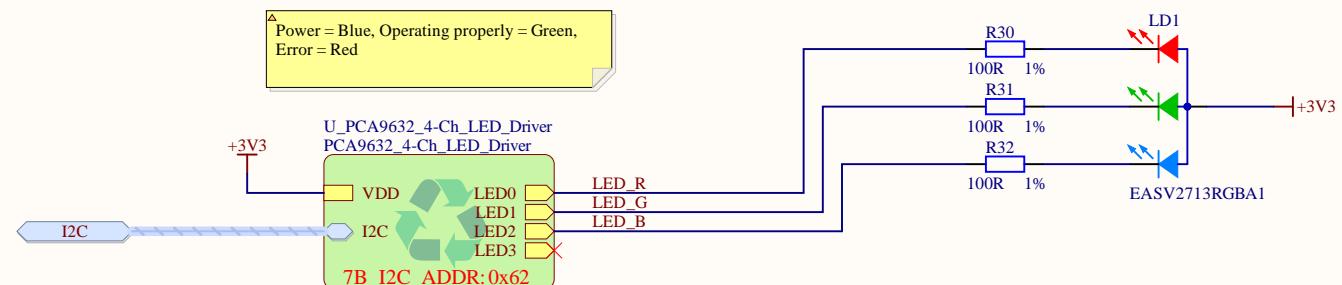
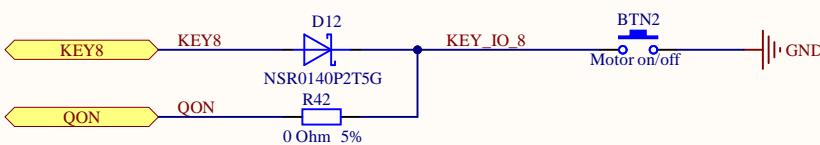
Title *Sensor Connection*

| | | |
|--------------------------------|----------------|----------------|
| Size: A4 | Number: 13 | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 13 of 51 |
| File: Sensor Connection.SchDoc | | |

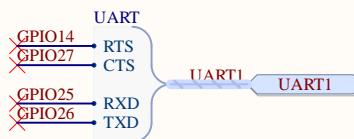
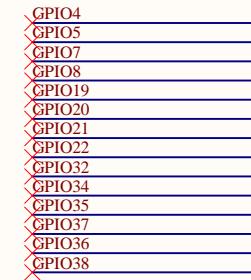
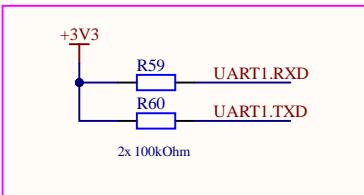
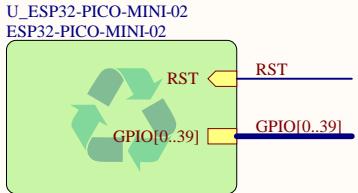
Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801



KEY_IO_1
KEY_IO_2
KEY_IO_3
KEY_IO_4
KEY_IO_5
KEY_IO_6
KEY_IO_7

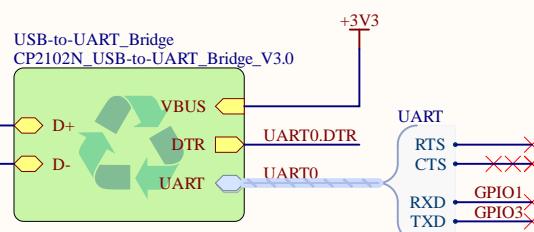
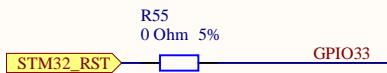


| Title User Interface | | | Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 |
|-----------------------------|----------------|----------------|---|
| Size: A4 | Number: 14 | Revision: 0.1 | |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 14 of 51 | |
| File: User_Interface.SchDoc | | | |

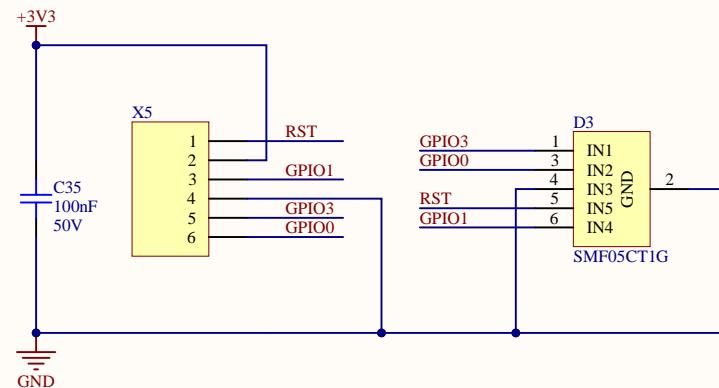


GPIO39 → WAKE_UP_ESP32

USB → USB



TXD and RXD and RTS and CTS signals of the UART0 interface of the ESP32 module are crossed over here to meet respective signals of the CP2102N USB-UART bridge.



Title **ESP32-WROOM32D Module**

Size: **A4** Number: **15** Revision: **0.1**

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

Date: **03-02-2022** Time: **14:49:30** Sheet **15** of **51**

File: **ESP32_Module.SchDoc**

A

A

B

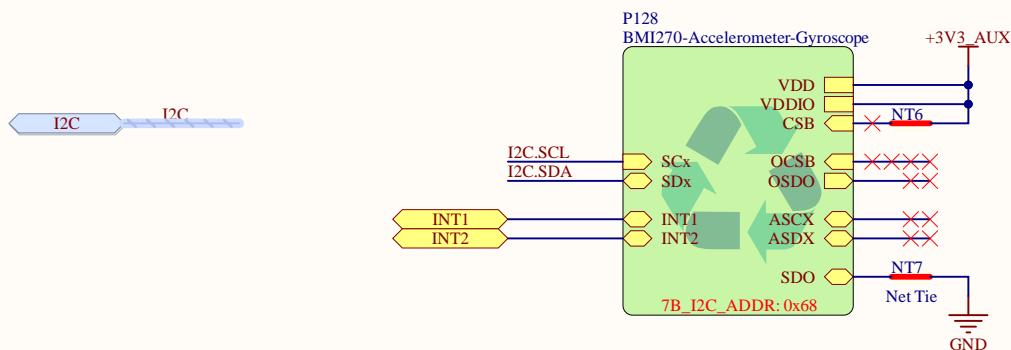
B

C

C

D

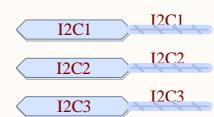
D


Title: BMA253 Orientation Sensor

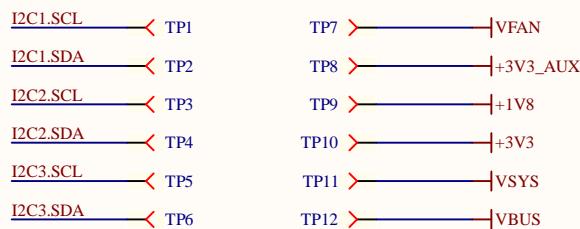
| | | |
|-------------------------|----------------|----------------|
| Size: A4 | Number: 21 | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 21 of 51 |
| File: BMI270_IMU.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

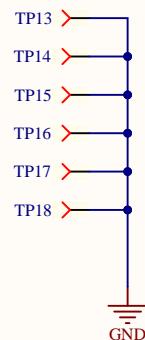
A



B



C



D

| Title Test Points | | | Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 |
|--------------------------|----------------|----------------|---|
| Size: A4 | Number: 22 | Revision: 0.1 | |
| Date: 03-02-2022 | Time: 14:49:30 | Sheet 22 of 51 | |
| File: Test_Points.SchDoc | | | |

A

A

B

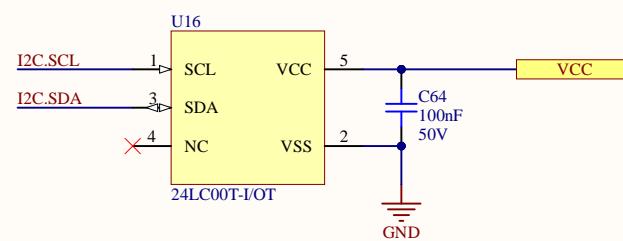
B

C

C

D

D



Title **24LC00T EEPROM**

| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

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|------------------|----------------|-------------|
| Date: 03-02-2022 | Time: 14:49:30 | Sheet* of * |
|------------------|----------------|-------------|

| |
|-----------------------------|
| File: 24LC00T_EEPROM.SchDoc |
|-----------------------------|

A

A

B

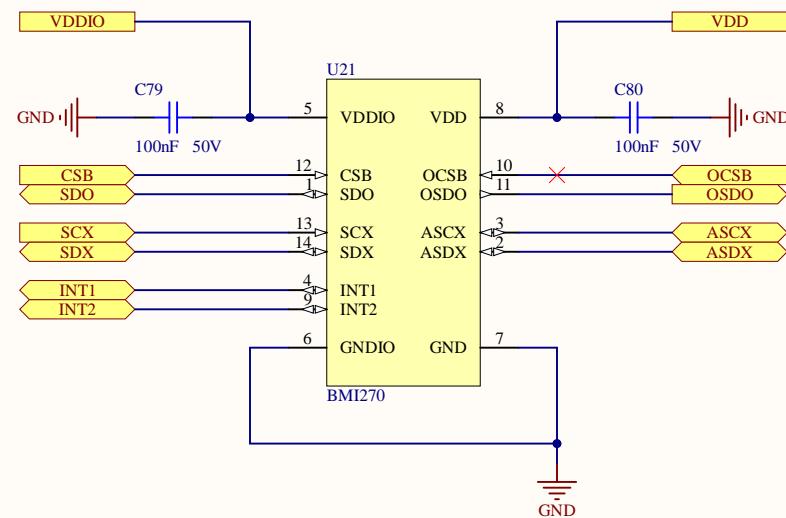
B

C

C

D

D



Title **BMI270-Accelero-Gyro**

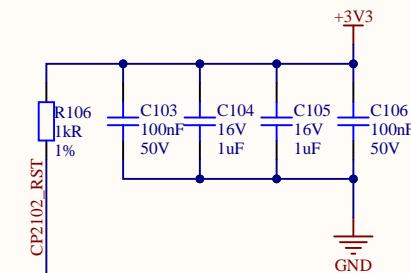
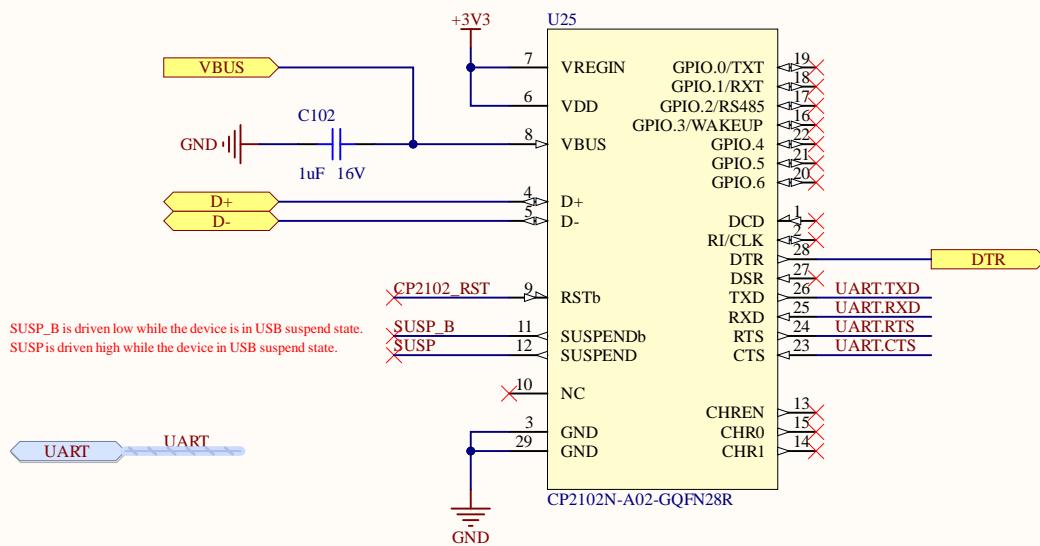
| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

| | | |
|------------------|----------------|--------------|
| Date: 03-02-2022 | Time: 14:49:30 | Sheet * of * |
|------------------|----------------|--------------|

| |
|---|
| File: BMI270-Accelerometer-Gyroscope.SchDoc |
|---|

A



B

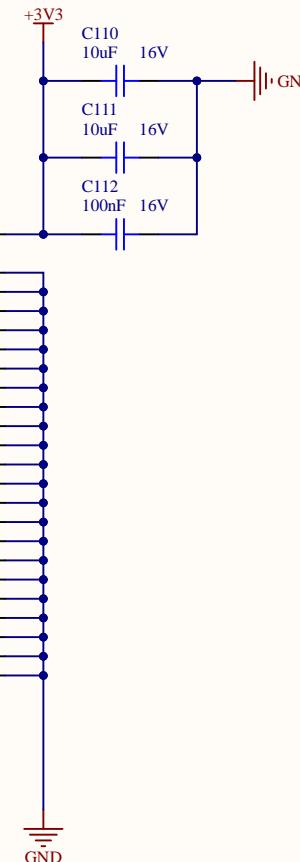
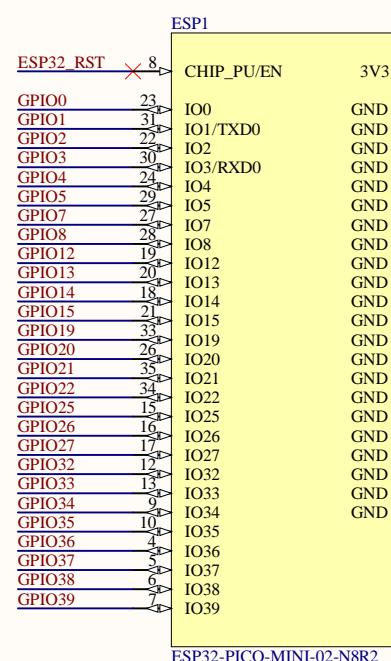
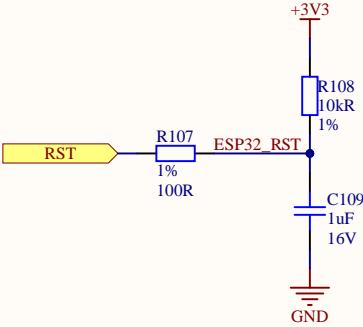
C

D

Title **CP2102 USB-to-UART Bridge**

| | | |
|--|----------------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:31 | Sheet * of * |
| File: CP2102N_USB-to-UART_Bridge_V3.0.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801



4

| Title ESP32-C3-MINI-1 Module | | |
|-------------------------------------|----------------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:31 | Sheet* of * |
| File: ESP32-PICO-MINI-02.SchDoc | | |

GPIO[0..39] → GPIO[0..39]

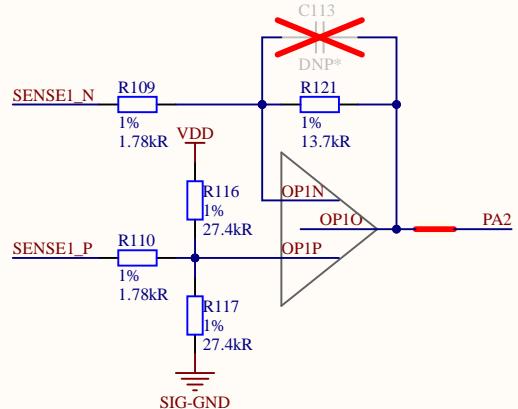
1

2

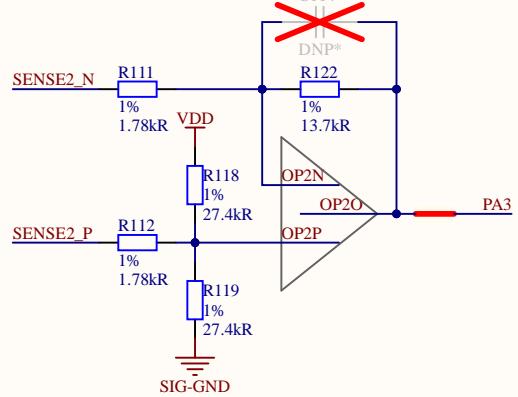
3

4

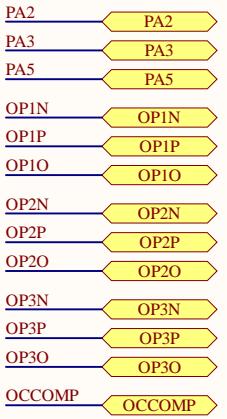
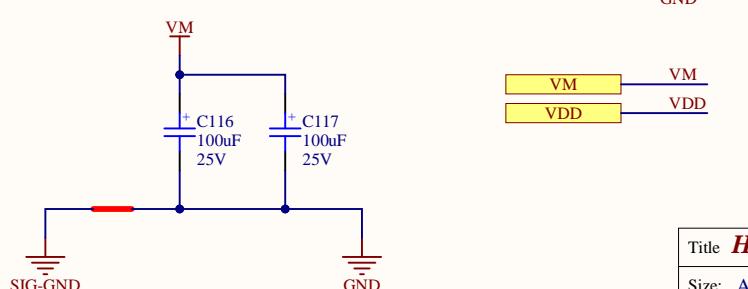
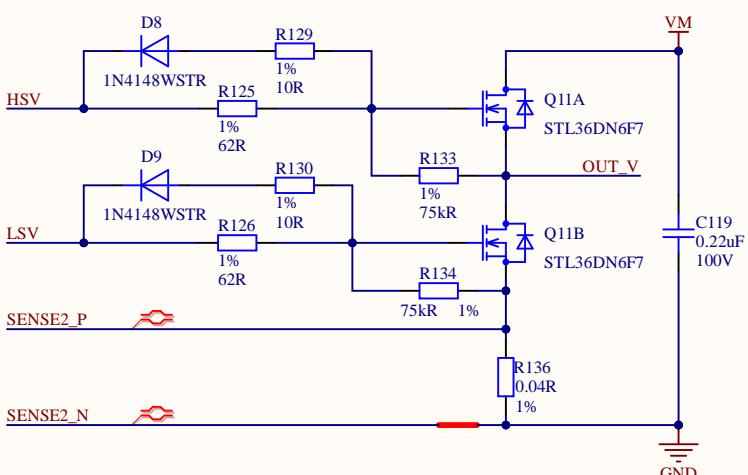
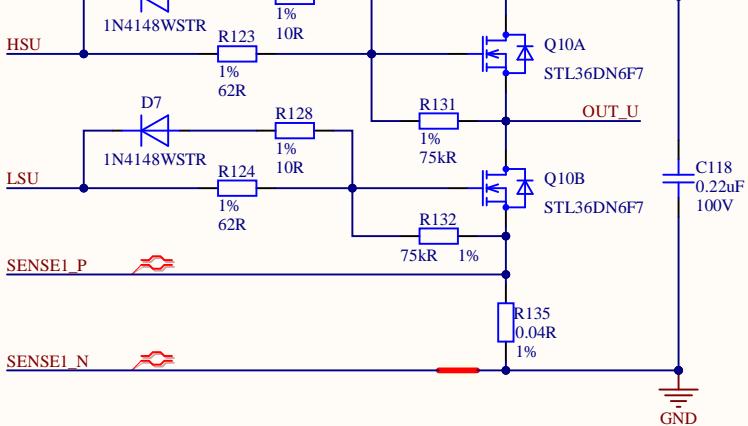
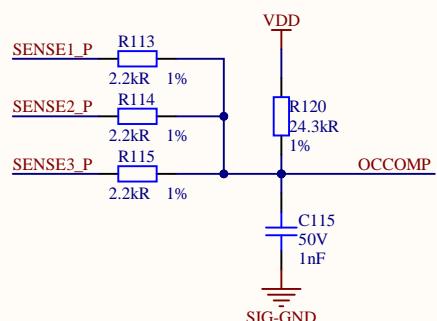
A



B



C

Title **H-Bridge-control&sense**

Size: A4 Number: * Revision: 0.1

Date: 03-02-2022 Time: 14:49:31 Sheet * of *

File: H-Bridge-control&sense.SchDoc

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

1

2

3

4

A

A

B

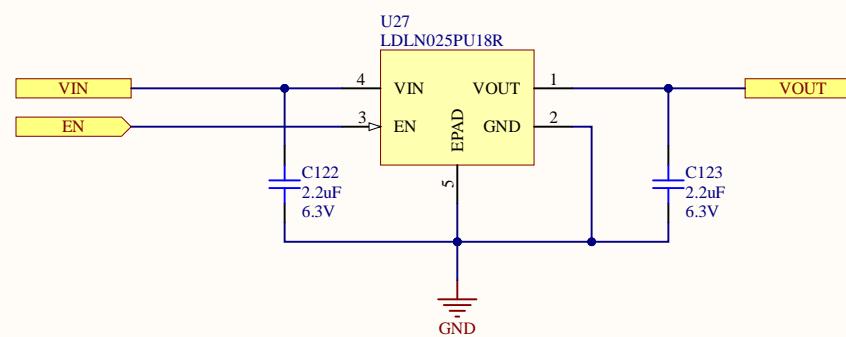
B

C

C

D

D



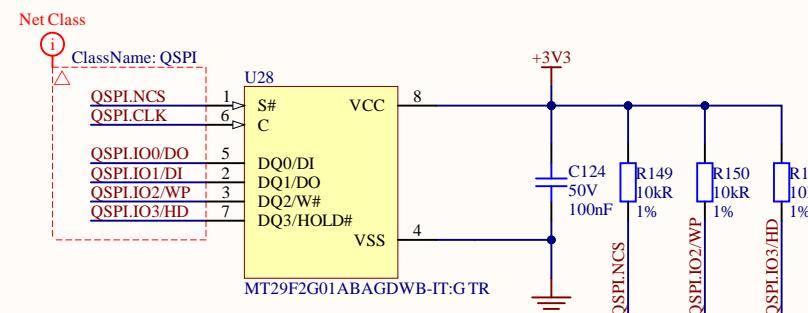
Title ***LDLN025 +IV8 Fix Voltage Regulator***

| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

| | | |
|------------------|----------------|-------------|
| Date: 03-02-2022 | Time: 14:49:31 | Sheet* of * |
|------------------|----------------|-------------|

| | | |
|------------------------------------|--|--|
| File: LDLN025_1V8_Regulator.SchDoc | | |
|------------------------------------|--|--|



| | | | |
|---------------------------------------|----------------|---------------|---|
| Title Quad SPI Flash Memory | | | Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 |
| Size: A4 | Number:* | Revision: 0.1 | |
| Date: 03-02-2022 | Time: 14:49:31 | Sheet * of * | |
| File: MT29F2G01_QSPI_NOR_Flash.SchDoc | | | |

A

B

C

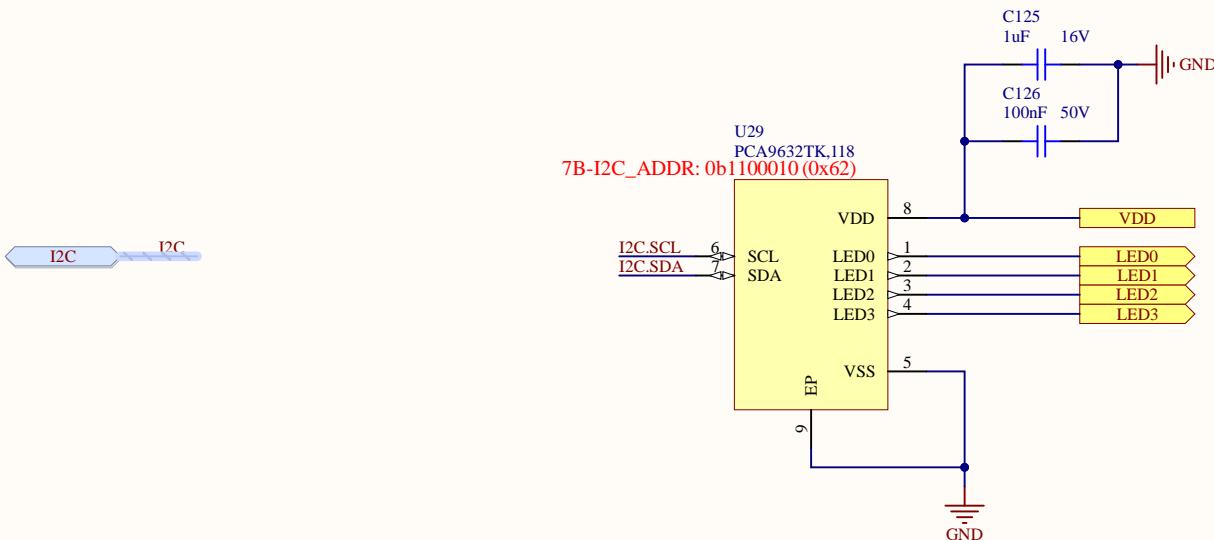
D

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D



Each LED output can be off, on (no PWM control), set at its Individual PWM controller value or at both Individual and Group PWM controller values. The LED output driver is programmed to be either open-drain with a 25 mA current sink capability at 5 V or totem pole with a 25 mA sink, 10 mA source capability at 5 V. The PCA9632 operates with a supply voltage range of 2.3 V to 5.5 V and the outputs are 5.5 V tolerant.

Title **PCA9632 4-ch LED Driver**

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

Size: A4 Number: * Revision: 0.1

Date: 03-02-2022 Time: 14:49:31 Sheet * of *

File: PCA9632_4-Ch_LED_Driver.SchDoc

A

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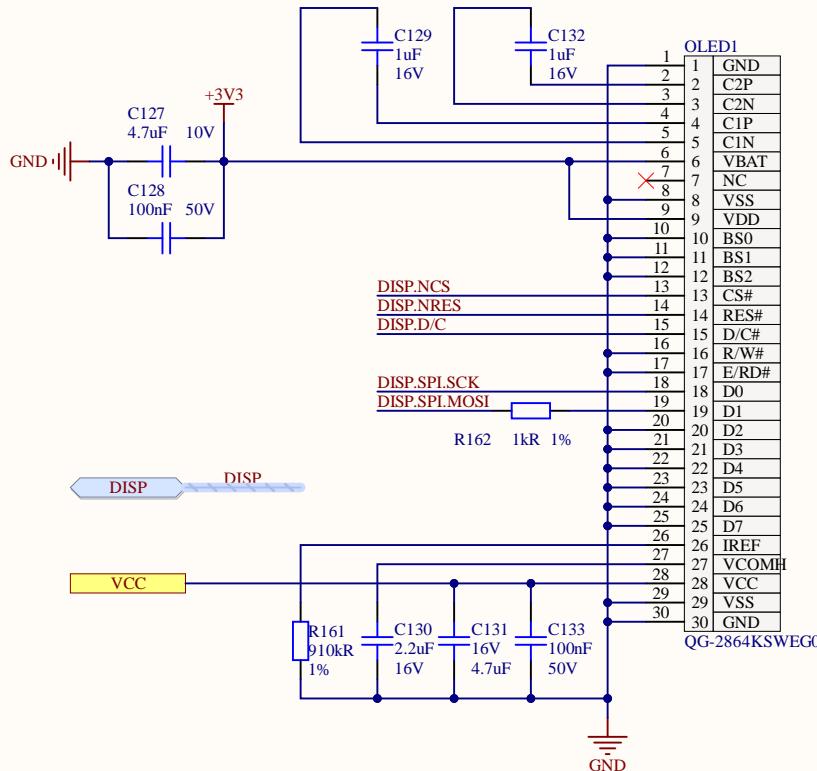
D

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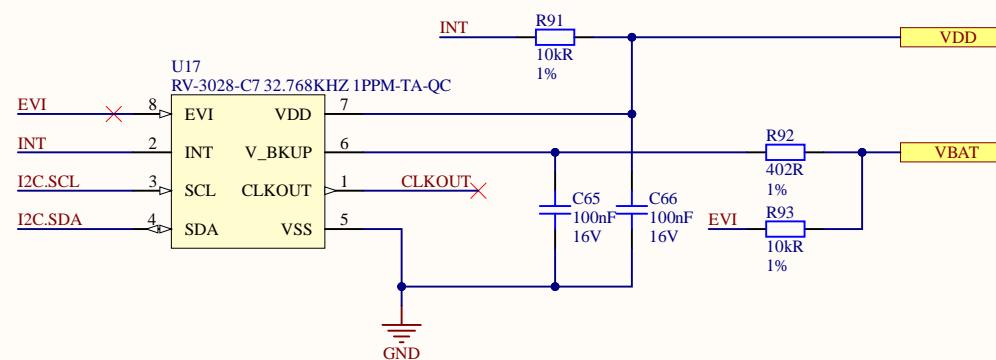
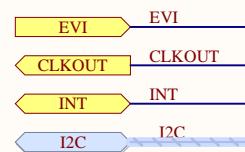
| | | |
|---|----------------|---------------|
| Title QG-2864KSSEG01 Display Module | | |
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:31 | Sheet * of * |
| File: QG-2864KSSEG01_OLED_Display_Module.SchDoc | | |

A

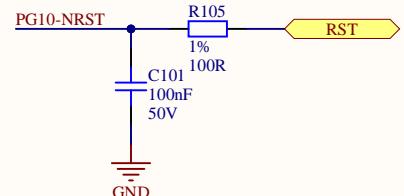
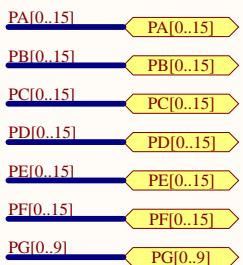
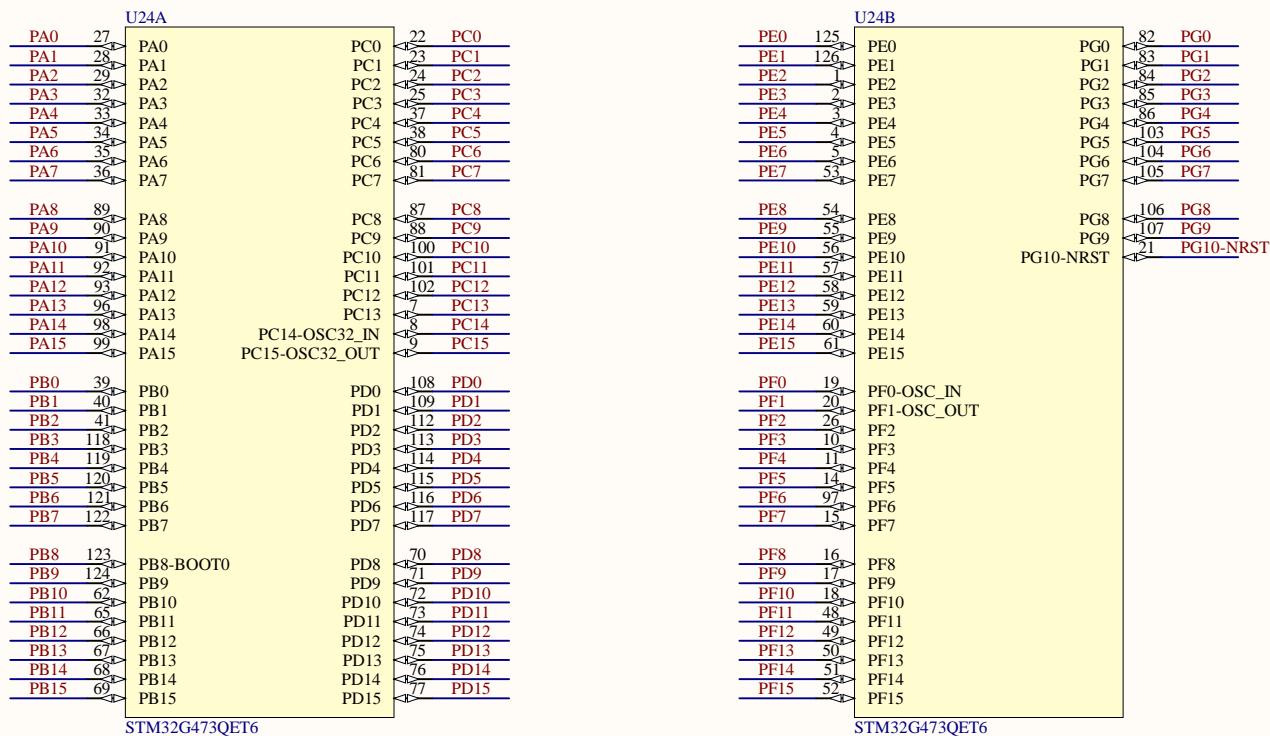
B

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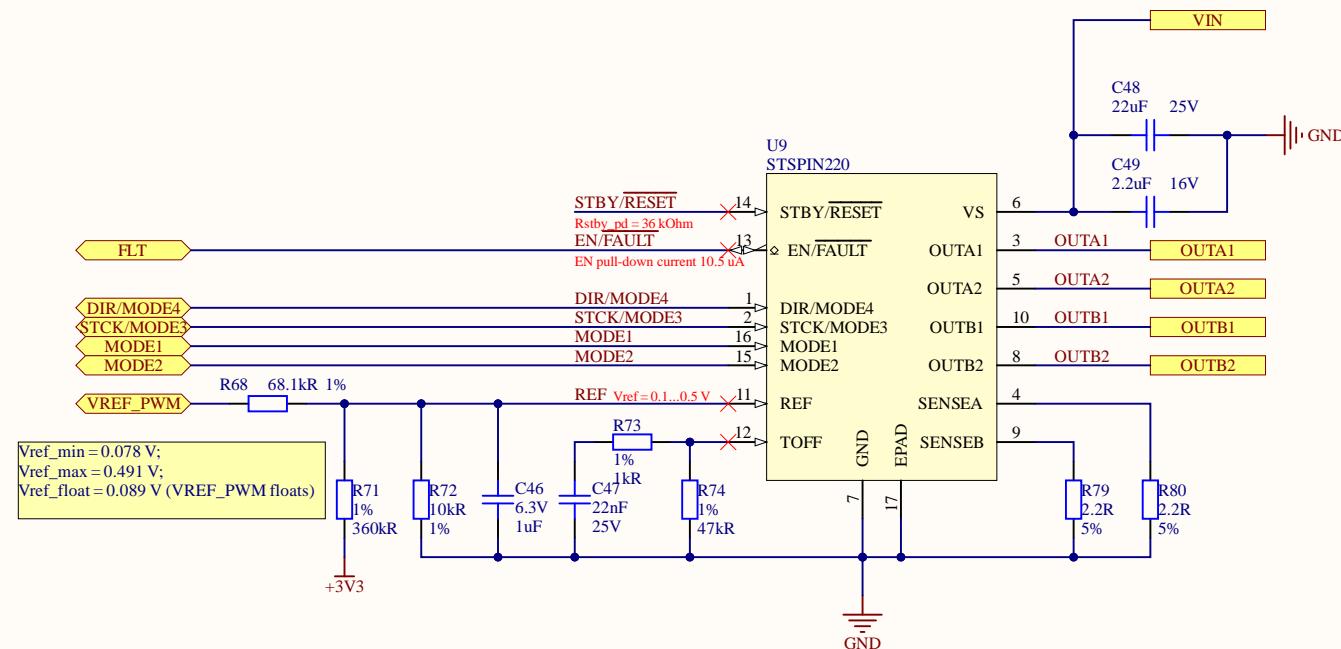
Title **RV-3028-C7 Real-Time Clock**Size: **A4** Number: * Revision: **0.1**Date: **03-02-2022** Time: **14:49:31** Sheet * of *File: **RV-3028_Real-Time_Clock.SchDoc**

*Acme_CPU
 30 N Gould St suite 4000
 Sheridan WY 82801*

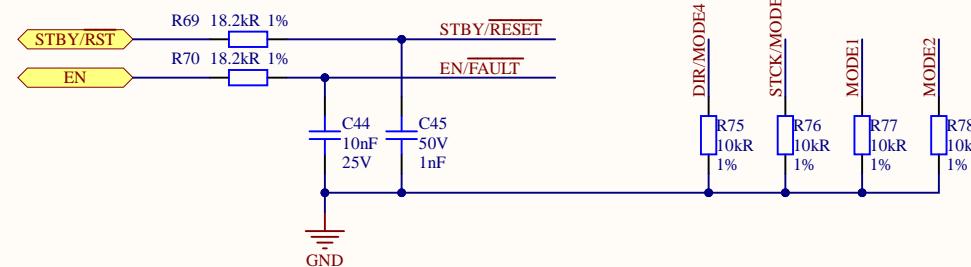


| Title STM32G473CETx Microcontroller | | | Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 |
|--|----------------|---------------|---|
| Size: A4 | Number:* | Revision: 0.1 | |
| Date: 03-02-2022 | Time: 14:49:31 | Sheet* of * | |
| File: STM32G473QETx_LQFP128 MCU.SchDoc | | | |

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| | | |
|---|----------------|---------------|
| Title Stepper Motor Driver | | |
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:31 | Sheet * of * |
| File: STSPIN220 Stepper Motor Driver.SchDoc | | |

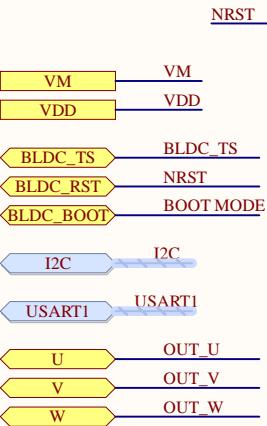
A

B

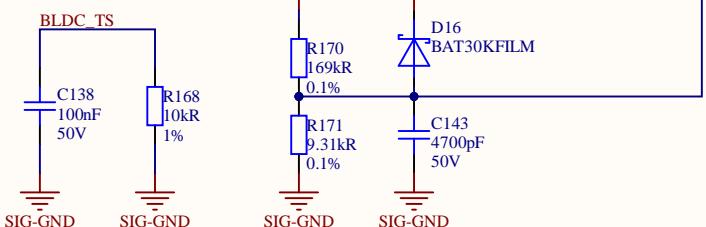
C

D

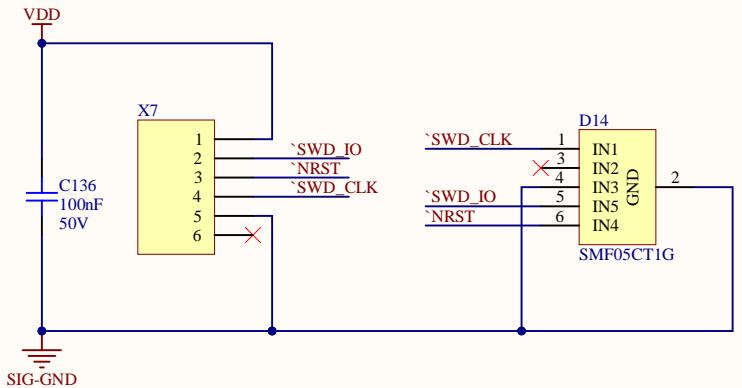
A



B



C

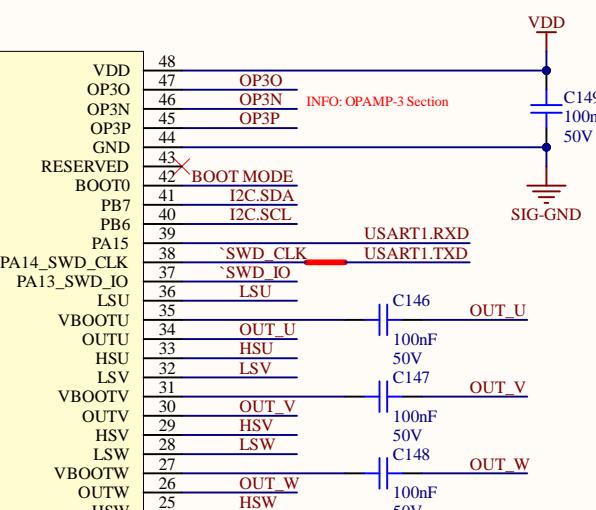
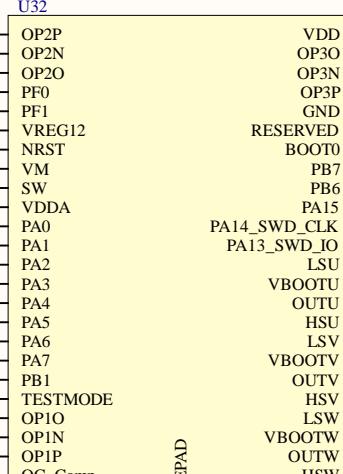
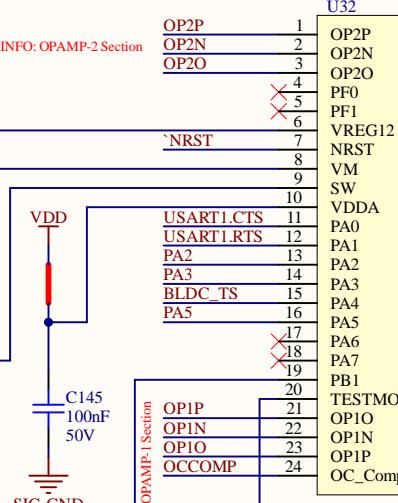


D

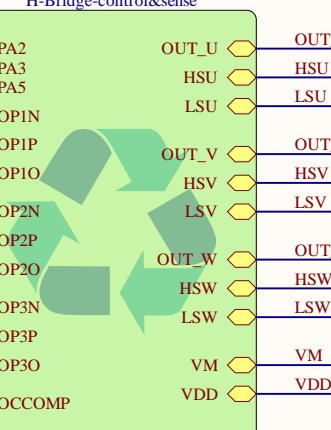
INFO: Jumper for External Gate Drive Supply

VM **R169** VREG
DNP*

INFO: OPAMP-2 Section



H-Bridge-control&sense

Title: **STSPIN32F0A 3-ph BLDC Motor Driver**Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801Size: **A4** Number: * Revision: **0.1**Date: **03-02-2022** Time: **14:49:31** Sheet * of *File: **STSPIN32F0A 3-ph BLDC Motor Driver.SchDoc**

A

A

B

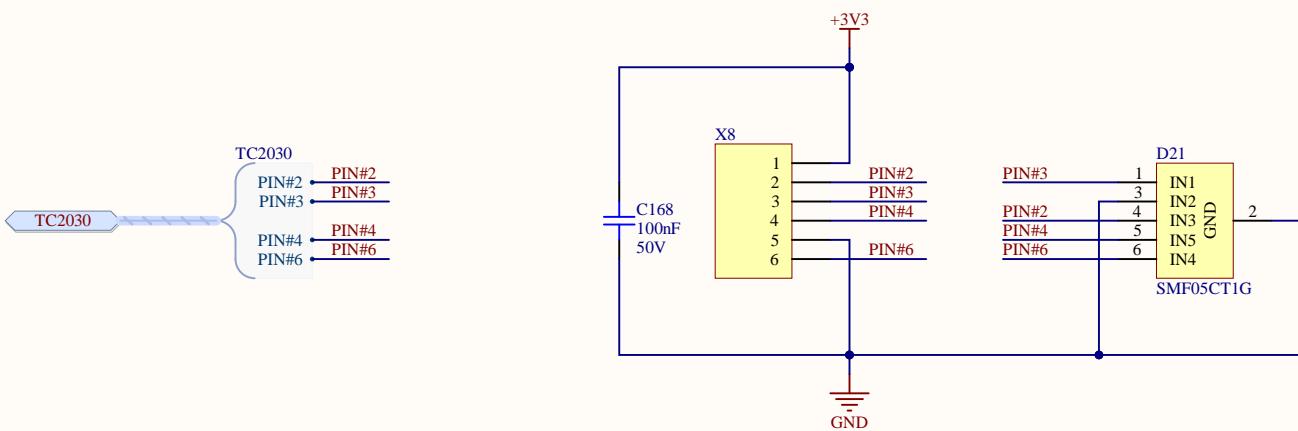
B

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C

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D


TC2030-NL Tag-Connect

Size: A4 Number: * Revision: 0.1

 Acme_CPU
 30 N Gould St suite 4000
 Sheridan WY 82801

Date: 03-02-2022 Time: 14:49:31 Sheet * of *

File: TC2030-NL TagConnect_6-pin.SchDoc

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A

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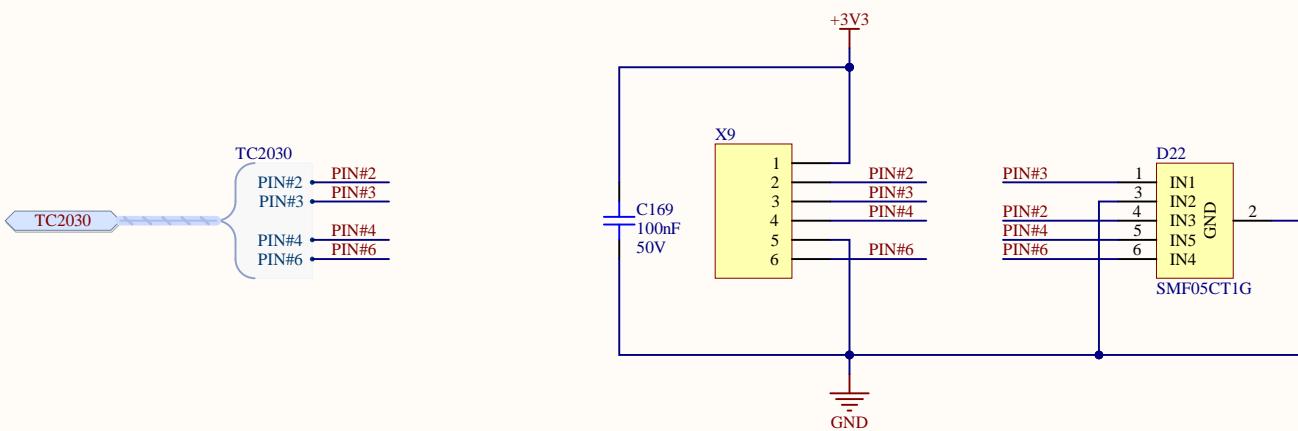
B

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Title *TC2030-NL Tag-Connect*

| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

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|---|--|
| Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 | |
|---|--|

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|------------------|----------------|--------------|
| Date: 03-02-2022 | Time: 14:49:31 | Sheet * of * |
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| | |
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| File: TC2030-NL TagConnect_6-pin.SchDoc | |
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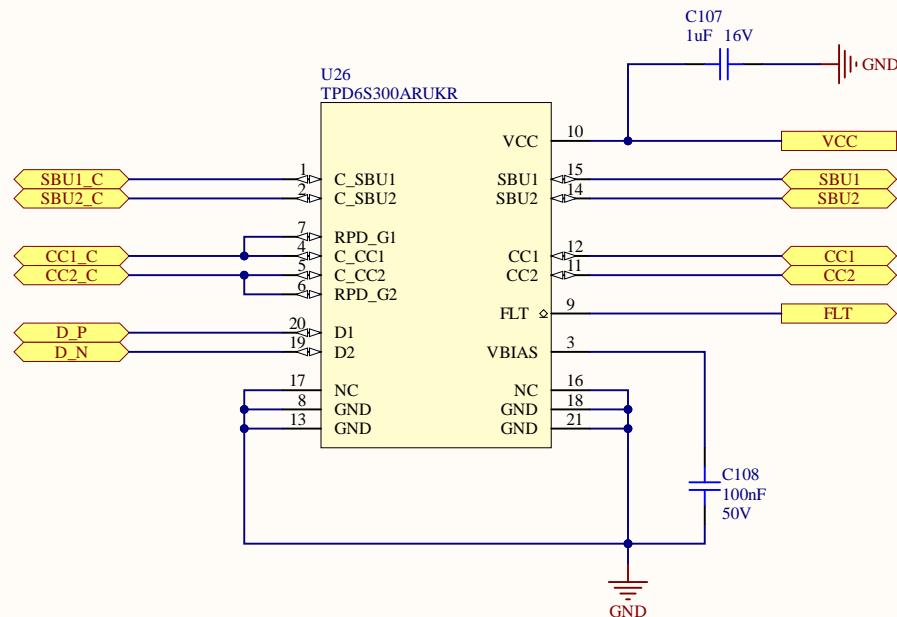
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Title *TPD6S300A USB Type-C Protection*

| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

| | |
|---|--|
| Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 | |
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| Date: 03-02-2022 | Time: 14:49:31 | Sheet * of * |
|------------------|----------------|--------------|

| | |
|---|--|
| File: TPD6S300A_USB_Type-C_Port_Protection.SchDoc | |
|---|--|

A

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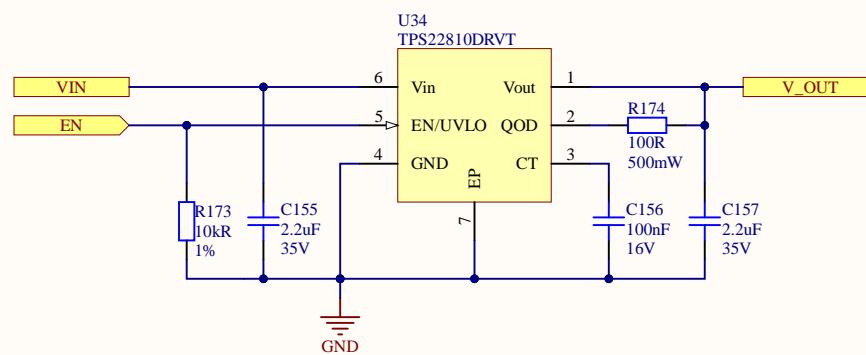
B

C

C

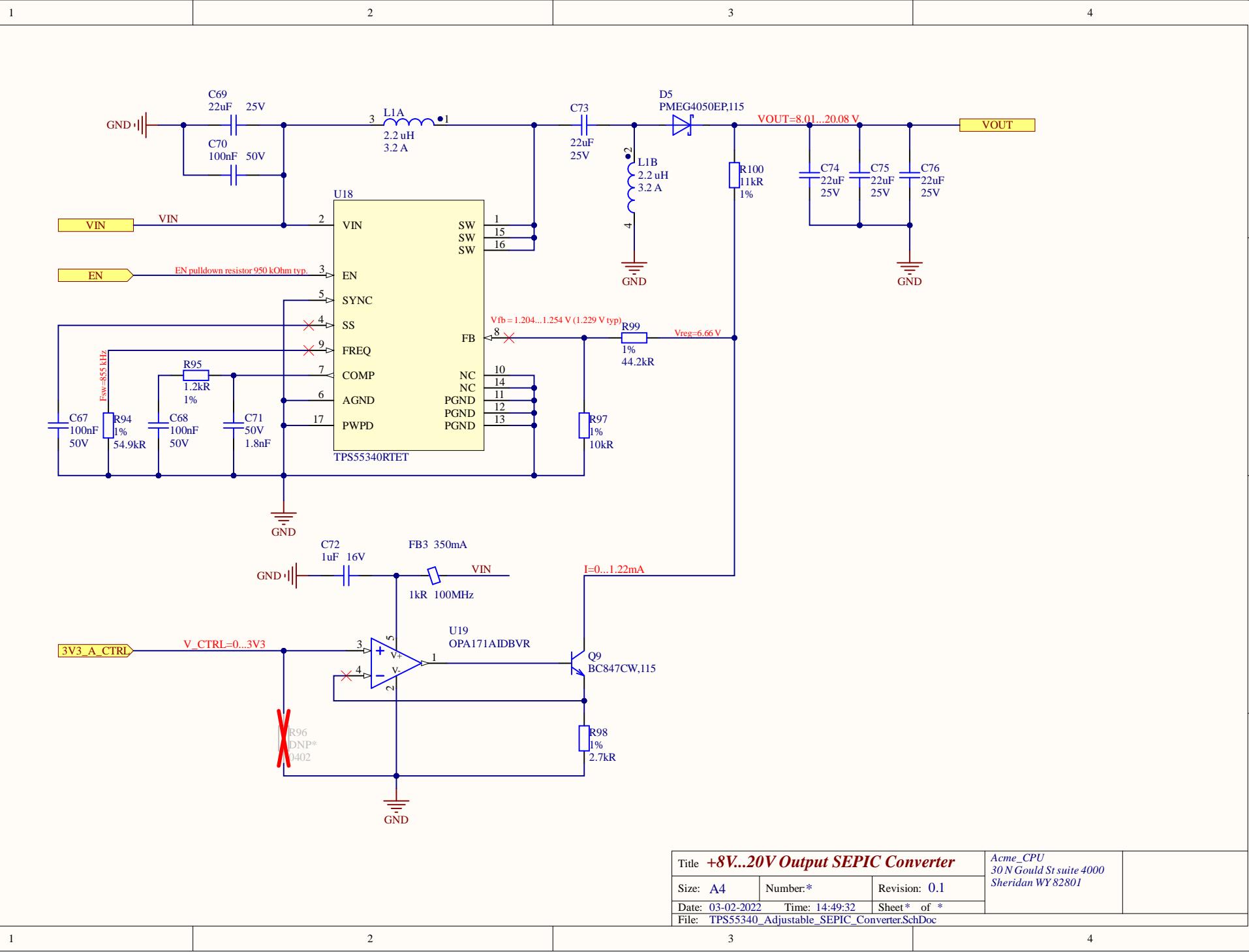
D

D



| | | |
|--|----------------|---------------|
| Title TPS22810 2.7...18V 3A Load Switch | | |
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:32 | Sheet * of * |
| File: TPS22810 2.7...18V 3A Load Switch.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801



A

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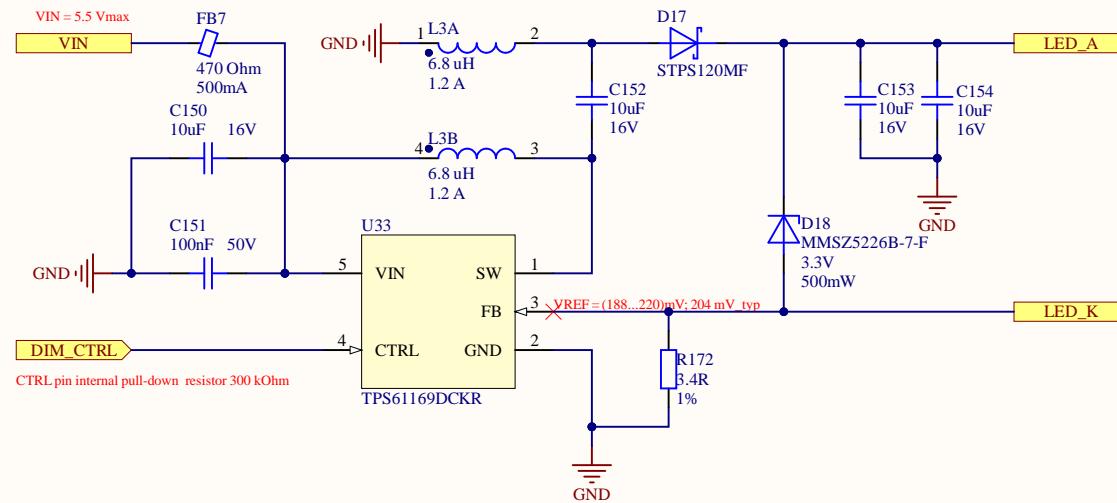
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| Title TPS61169 SEPIC 100 mA LED Driver | | |
|---|----------------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:32 | Sheet * of * |
| File: TPS61169_SEPIC_60_mA_LED_Driver_V2.0.SchDoc | | |

A

A

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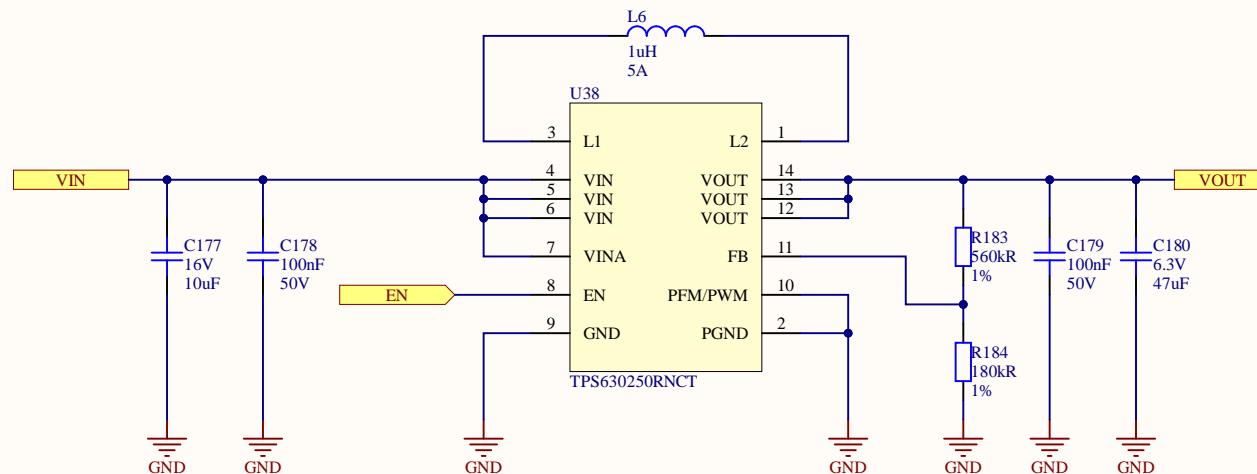
B

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Title **+3.3 Output DC-DC Converter**

| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

Date: 03-02-2022 Time: 14:49:32 Sheet * of *

File: TPS630250RNCT Buck-Boost Switching Regulator.SchDoc

A

A

B

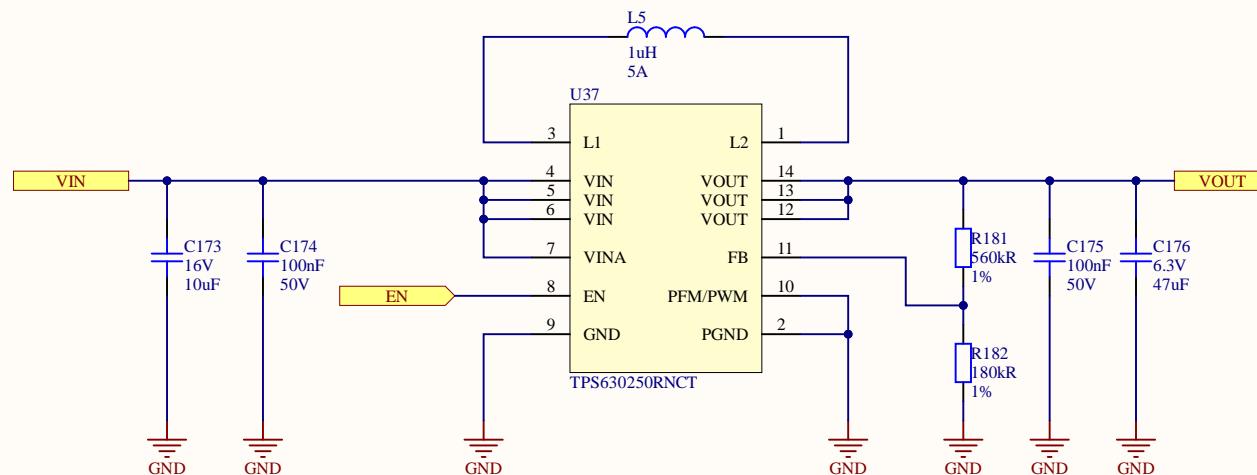
B

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D


Title +3.3 Output DC-DC Converter

| | | |
|----------|----------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
|----------|----------|---------------|

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|---|--|
| Acme_CPU 30 N Gould St suite 4000 Sheridan WY 82801 | |
|---|--|

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|------------------|----------------|--------------|
| Date: 03-02-2022 | Time: 14:49:32 | Sheet * of * |
|------------------|----------------|--------------|

| | |
|---|--|
| File: TPS630250RNCT Buck-Boost Switching Regulator.SchDoc | |
|---|--|

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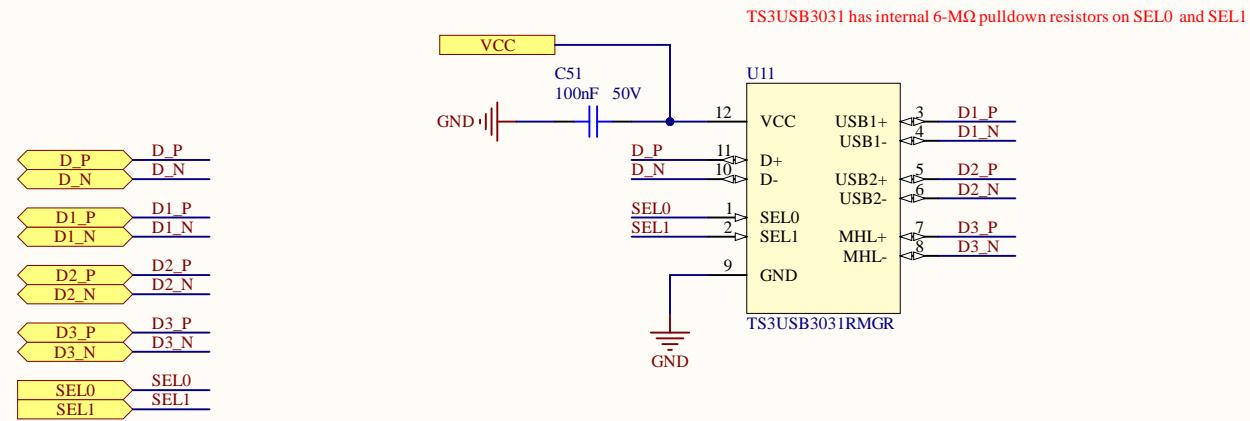
B

C

C

D

D

**Table 1. Function Table**

| SEL1 | SEL0 | SWITCH STATUS |
|------|------|--------------------------------|
| Low | Low | D+/D- connected to USB1+/USB1- |
| Low | High | D+/D- connected to USB2+/USB2- |
| High | Low | D+/D- connected to MHL+/MHL- |
| High | High | USB and MHL switches in High-Z |

TS3USB3031 2-ch 2p3t Multiplexer

| | | |
|---|----------------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:32 | Sheet * of * |
| File: TS3USB3031_2-ch_2p3t_Multiplexer.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801

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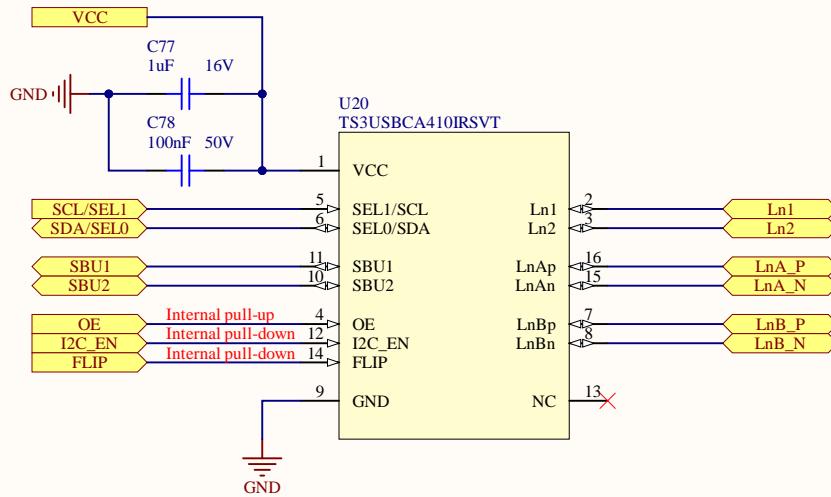
D

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Title *BQ24392 SPST USB Switch*

| | | |
|--|----------------|---------------|
| Size: A4 | Number:* | Revision: 0.1 |
| Date: 03-02-2022 | Time: 14:49:32 | Sheet * of * |
| File: TS3USBCA410_USB_C_SBU_Multiplexer.SchDoc | | |

Acme_CPU
30 N Gould St suite 4000
Sheridan WY 82801